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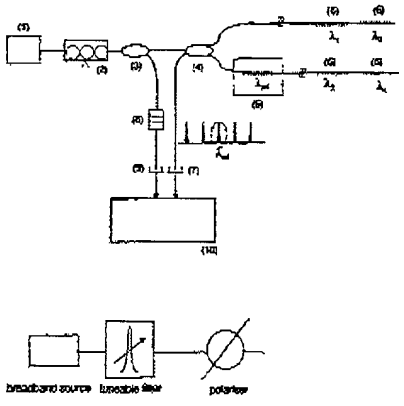
(54) Title: METHOD AND APPARATUS FOR INTERROGATION OF BIREFRINGENT FBG SENSORS



(57) Abstract: A method for measurements of the orthogonally polarised minimum and maximum Bragg wavelengths of one or several birefringent fibre Bragg grate FBG sensors, and alternatively a method for eliminating errors in FBG sensor measurements caused by undesired grating birefringence, using an FBG wavelength interrogation apparatus, where the light from a polarised wavelength swept narrowband source (1) is passed through an electrically controllable polarisation controller (2), operated in either a scanning mode or a tracking mode to find the two orthogonally polarised reflection spectra of the birefringent FBGs (6) with corresponding minimum and maximum Bragg wavelength, γ_{Bx} and γ_{By}, where a low-birefringent reference FBG with known wavelength (5) and a low-birefringent fixed Fabry-Perod interferometer (8), generating frequency equidistant peaks are used in combination to provide accurate and repeatable wavelength measurements.

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